

Application No. 09/912,435
Reply to Office Action dated May 24, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for cleaning an integrated circuit package surface, comprising:
~~encapsulating an integrated circuit die into an integrated circuit package;~~
introducing said integrated circuit package inside a plasma chamber; and
exposing said integrated circuit package to a noble gas ion plasma for a selected time and strength to remove an upper layer of material from the package; ~~and~~
~~placing a pattern of ink marking on said package for marking said package.~~
2. (Original) The cleaning process according to Claim 1, wherein said physical plasma has a halogen-type behavior.
3. (Previously Presented) The cleaning process according to Claim 1 wherein said noble gas ion plasma is obtained in the presence of a pure noble gas.
4. (Original) The cleaning process according to Claim 3, wherein said noble gas is argon.
5. (Previously Presented) The cleaning process according to Claim 1 wherein said step of exposing said integrated circuit to a noble gas ion plasma comprises the step of energizing said plasma by applying the following energization parameters: energization time, between 12 and 15 seconds; energization power, between 140 and 160 W; and plasma chamber pressure, between 190 and 210 millitorr.

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6. (Original) The cleaning process according to Claim 1, further including:
applying a continuous voltage to obtain ionization of said plasma.
7. (Original) The cleaning process according to Claim 1, further including:
applying a radio-frequency voltage at a frequency of between 1 kHz and 100
GHz, to obtain ionization of said plasma.
8. (Original) The cleaning process according to Claim 1 wherein the
exposing of said integrated circuit to a physical plasma occurs in a single exposure.
9. (Original) The process according to Claim 1 wherein the package is
composed of a ceramic material.
10. (Currently Amended) The manufacturing process according to Claim 1,
further comprising placing a pattern of ink marking on said package for marking said package
~~wherein said ink marking step is carried out using a laser ink marking technique.~~
11. (Original) The process according to Claim 1 wherein the package is
composed of a plastic material.
12. (Original) The process according to Claim 1 wherein the package is
composed of an epoxy resin material.
13. (Original) The process according to Claim 1 wherein the package
includes exposed metal components.
14. (Previously Presented) A process for manufacturing an integrated circuit,
comprising:
cleaning of an integrated circuit package surface by introducing the packaged
integrated circuit into a plasma chamber;

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exposing the package surface to a noble gas ion plasma;
removing a layer of material from the package surface to clean the upper surface of the package; and
ink marking said package surface.

15. (Original) The manufacturing process according to Claim 14, wherein said ink marking process is carried out using a laser ink marking technique.

16. (Original) The process according to Claim 14 wherein the package is composed of a ceramic material.

17. (Original) The process according to Claims 14 wherein the package is composed of a plastic material.

18. (Original) The process according to Claim 14 wherein the package is composed of an epoxy resin material.

19. (Original) The process according to Claim 14 wherein the package includes exposed metal components.

20. (Previously Presented) The cleaning process according to Claim 1, wherein said noble gas is helium.